Web Table 1: DEHP, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ /Body Weight	Histopathology	Hematology	Chemistry	Other
B6C3F1 Mice Hazelton 1992	Subchronic study – 4 weeks. 6-week-old mice were fed diets with DEHP at 1,000, 5,000, 10,000, or 25,000 ppm and then were then killed and necropsied. Hematology and serum chemistry (glucose, BUN, creatinine, liver enzymes, electrolytes) were evaluated at week 5.	10/sex	0						
		10/sex	245(M)/ 270(F)	NE	NE	NE	NE	NE	NOAEL
		10/sex	1,209(M)/ 1,427(F)	↓(M)	↑Li ↓Ki (M)	Li effects Ki effects (M)	↓Hgb and Hct(M)	NE	LOAEL
		10/sex	2,579(M)/ 2,,897(F)	↓(M)	↑Li ↓Te	Li and Ki effects	↓Hgb, Hct	NE	
		10/sex	6,992(M)/ 7,899(F)	↓	↑Li ↑Ki (F) ↓Te	Li, Ki, Th, Te, and Ov effects	↓Hgb, Hct ↓RBC (M)	*	Death in 4/10 M and 3/10 F Clinical signs

* Statistical analysis not possible due to small sample sizes. Few surviving animals at higher doses.

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

RBC=Red Blood Cell
Th=Thymus
Ov=Ovary
Te=Testes
Li=Liver
Ki=Kidney

Hgb=Hemoglobin
Hct=Hematocrit

Web Table 2: DEHP, General Toxicity

Strain	Experimental Regimen	Number /Sex	Dose (mg/kg bw/day)	Body Weight	Testes	Liver	Other
Sprague-Dawley (Poon et al. 1997)	Subchronic Study-13 weeks Male and female rats (~4–6 weeks old*) were fed diets with 0, 5, 50, 500, or 5,000 ppm DEHP for 13 weeks, then sacrificed and necropsied. Analysis were conducted for hematology, clinical chemistry, and histopathology. Peroxisome proliferation was examined microscopically.	10 10 10 10 10	0 0.4(M)/0.4(F) 3.7(M)/4.2(F) 37.6(M)/42.2 (F) 375(M)/419(F)	 NE NE NE NE	 NE NE Sertoli cell vacuolation. Sertoli cell vacuolation and seminiferous tubule atrophy. ↓Sperm Count. ↓Te / body weight ratio.	 NE NE ↓ASAT(M). NE ↓ALAT(F). ↓ASAT. ↑Peroxisomes (by electron microscopy). Liver cell enlargement. Mild focal necrosis in a few males and females. ↓ASAT(M). ↑APD, AH. ↓Ch(F). ↑Alb(M). ↑Li / body weight ratio.	 NOAEL. LOAEL. ↓Colloid density and follicle size in thyroid. ↑Ki / body weight ratio. ↓RBC, Hg(M), PC, MCV. ↑Ca (M), PO_4, K(M), protein (F).

*Based on Charles Rivers growth chart for males weighing 105–130 g and females weighing 93–111 g

NA=Not analyzed
NE=No effects
↑= Statistically significant increase
↓=Statistically significant decrease
MCV=Mean Corpuscular Volume
ASAT=Aspartate aminotransferase
M=Male
F=Female
Li=Liver
Ki=Kidney
Te=Testes
ALAT=Alanine Aminotransferase
APD=Aminopyrine-N-demethylase
AH=Aniline hydroxylase
Ca=Calcium
K=Potassium
Hg=Hemoglobin
RBC=Red Blood
Alb=Albumin
Ch=Cholesterol
PC=Platelet Count

See DEHP document for reference list.

Web Table 3: DEHP, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ/Body Weight	Histopathology	Hematology	Chemistry	Other
F344 Rats Hazelton 1992	Subchronic study – 13 weeks. 8-week-old rats were fed diets with DEHP at 0, 1,000, 4,000, 12,500, or 25,000 and then were killed and necropsied. Analysis were conducted for hematology, clinical chemistry, urinalysis, organ weight, and histopathology.	10/sex	0						
		10/sex	63(M)/73(F)	NE	↑Li(M)	NE	NE	NE	LOAEL
		10/sex	261(M)/ 302(F)	NE	↑Ki(M), ↑Li	Slight Li (M) effects	↓RBC (M)	↑ (M): BUN, TP, Al ↓Glo	
		10/sex	850(M)/ 918(F)	↓(F)	↑Ki, ↑Li	Ki and Li effects	↓RBC, Hct, and Hgb (M)	↑ (M): Glu, TP ↑BUN, Al ↓Glo	Clinical signs
		10/sex	1,724(M)/ 1,858(F)	↓*	↓Ut, Te ↑BrS(F), Ki, ↑Li	Pi (M), Ad, St (M), Ki, and Li effects Te atrophy and aspermia	↓RBC (M) ↓Hgb, Hct	↑Glu, BUN, TP(M),Al ↓Glo	Clinical signs ↑Urine blood (M) ↓Urine protein (M) ↓Urine pH (F)

* Decreased food consumption.

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase
NS=Non-significant
Th=Thymus
Ov=Ovary
Te=Testes
Li=Liver
Ki=Kidney
Glu=Glucose
BUN=Blood Urea Nitrogen
TP=Total Protein
Al=Albumin
Glo=Globulin
RBC=Red Blood Cells
Pi=Pituitary
Ad=Adrenals
St=Stomach
Ut=Uterus
BrS=Brain stem
Hgb=Hemoglobin
Hct=Hematocrit

Web Table 4: DEHP, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight	Histopathology	Hematology	Chemistry	Other
Marmoset *(Kurata et al. 1998)*	Subchronic study – 13 weeks. Pubescent male and female marmosets were gavaged with DEHP in corn oil for 13 weeks and then sacrificed and necropsied.	4	0						
		4	100	NE	NE	NE	NA	NE	No effects on testiculuar zinc.
		4	500	NE	NE	NE	NA	NE	
		4	2,500	↓(M)	NE	↑ Peroxisomal volume. No effects in testes, liver, or pancreas.	NA	NE	NOAEL

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

See DEHP document for reference list.

Web Table 5: DEHP, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight	Histopathology	Hematology	Chemistry	Other
Wistar Rat *(Klimisch et al. 1992)*	Subchronic Study – 4 weeks. 9-week-old rats inhaled DEHP mists (0, 0.01, 0.05, and 1.0 mg/l) 6 hours/day, 5days/week, for 28 days. 10 rats/sex/group were killed and necropsied after exposure and peroxisome proliferation was evaluated in 2 rats/sex/group. 15 male rats/group were mated to untreated females for 10 days at 2 and 6 weeks following exposure and fertility was evaluated. 5 rats/sex/group were killed and necropsied 8 weeks following exposure.	5–15 5–15 5–15 5–15	0 2.3(M)/3.6(F) 11(M)/18(F) 230(M)/ 360(F)	NA NE NE NE	NA NE NE ↑ Lung (Reversible, M). ↑ Liver (Reversible).	NA NE NE Alveolar septum thickening and foam-cell proliferation (Reversible). NE including peroxisome proliferation. NE on male sex organs.	NA NE NE ↑Plasma albumin and inorganic phosphate (M) (Reversible).	NA	NA NE NOAEL. NE on male fertility as determined by mating success, fertility index, and implantation loss .

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

See DEHP document for reference list.

Web Table 6: 2-EHA, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight*	Histopathology	Hematology	Chemistry	Other
F344 Rat	Subchronic study –13 weeks. 6-week-old male and female	10	0						
(Juberg et al. 1998)	rats were fed diets with 0, 0.1, 0.5, or 1.5% 2-EHA for 13 weeks and then sacrificed and necropsied.	10	61(M)/71(F)	NE	NE	NE	NE	↑Ch(M)	
		10	303(M)/ 360(F)	NE	↑Te, Li, Ki(F)	Hepatocyte hypertrophy (M).	↓MCH, MCV	↑Ch(M)	
		10	917(M)/ 1,068(F)	↓	↑Te, Li, Ki	Hepatocyte hypertrophy.	↓MCH, MCV	↑Ch(M) ↑Al(M)	

*Organ to bodyweight ratio

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase
Ki=Kidney
Li=Liver
St=Stomach
Ov=Ovaries
Te=Testes
Ch=Cholesterol
Al=Albumin
MCH=Mean corpuscular hemoglobin
MCV= Mean corpuscular volume

Web Table 7: 2-EHA, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight*	Histopathology	Hematology	Chemistry	Other
$B6C3F_1$ Mice *(Juberg et al. 1998)*	Subchronic study – 13 weeks. 6-week-old male and female mice were fed diets with 0, 0.1, 0.5, or 1.5% 2-EHA for 13 weeks then sacrificed and necropsied.	10	0						
		10	180(M)/205 (F)	NE	NE	NE	NE	NE	
		10	885(M)/ 1038(F)	NE	↑Li, Ki(F)	Hepatocyte hypertrophy (M).	NE	↑Ch. ↓Tg and Bi (F).	
		10	2,728(M)/ 3,139(F)	↓	↑Te, Li, Ki(F)	Hepatocyte hypertrophy and lesions, kidney lesions, and stomach lesions(M).	NE	↑Ch. ↓Tg, Bi. ↑ALT(M).	

*Organ to bodyweight ratio

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

Ki=Kidney
Li=Liver
St=Stomach
Ov=Ovaries
Te=Testes
Ch=Cholesterol

Al=Albumin
Tg=Triglycerides
Bi=Bilirubin

Web Table 8: 2-EH, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight*	Histopathology	Hematology	Chemistry	Other
F344	Subchronic study – 13 weeks. Male and female rats (42–43-days-old) were gavaged with 2-EH in chremophore five days/week, for 13 weeks then sacrificed and necropsied.	10	0						
(Astill et al. 1996)		10	25	NE	NE	NE	NE	NE	
		10	250	NE	↑Ki, Li. ↑St(F), Ov.	NE	NE	↓ALT (F).	
		10	500	↓	↑Ki, Li, St, Te (63%).	Stomach and liver lesions, adrenal hyperplasia.	↑Re.	↓ALT and Ch (F). ↓Pr and Al (M).	↑ Peroxisomal enzymes.

*Organ to body weight ratio

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

Ki=Kidney
Li=Liver
St=Stomach
Ov=Ovaries
Te=Testes
Re=Reticulocytes

ALT=Alanine aminotransferase
Ch=Cholesterol
Pr=Protein
Al=Albumin

See DEHP document for reference list.

Web Table 9: 2-EH, General Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Body Weight	Organ Weight*	Histopathology	Hematology	Chemistry	Other
B6C3F1 Mice	Male and female mice (49–61-days-old) were gavaged with	10	0						
	2-EH in chremophore five	10	25	NE	NE	NE	NE	NE	
(Astill et al. 1996)	days/week, for 13 weeks then sacrificed and necropsied.	10	250	NE	↑ Li, St(M).	NE	NE	NE	
		10	500	NE	↑ Li, St(M).	Stomach lesions.	NE	NE	No effect on peroxisomal enzymes.

*Organ to body weight ratio

NA=Not analyzed
NE=No Effects
M=Male
F=Female
↓=Statistically significant decrease
↑= Statistically significant increase

Ki=Kidney
Li=Liver
St=Stomach
Ov=Ovaries
Te=Testes
Re=Reticulocytes

ALT=Alanine aminotransferase
Ch=Cholesterol
Pr=Protein
Al=Albumin

Web Table 10: DEHP, Developmental Toxicity

				Effects	
Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Maternal	Fetal
CD-1 Mice (Tyl et al. 1988c; Tyl et al. 1984)	Prenatal developmental toxicity study. DEHP administered in feed on gd 0–17. Sacrificed on gd 17. Dams weighed on gd 0, 4, 8, 12, 16, and 17. Maternal liver and uteri weighed, and corpora lutea counted at sacrifice. All fetuses examined for gross external, visceral, and skeletal malformations.	30 26 26 24 25	0 44 91 191 293	NOAEL ↑Lethargy and rough coat. ↓Weight gain (not corrected). ↑Liver to body weight ratio. ↑Lethargy and rough coat. ↓Piloerection. ↓Weight gain (not corrected). ↑Liver to body weight ratio. ↑Lethargy and rough coat.	NOAEL ↑Fetuses/litter with malformations (14 vs 2.5%). ↑Resorptions/litter (52 vs 16%) and litters with resorptions (96 vs 60%). ↑Non-live implants/litter (55 vs 16%). ↓Live litter size (n = 8.1 vs 11.0). ↓Fetal body weight (8%; female). ↑Fetuses/litter with malformations (47 vs 2.5%).** ↑Resorptions/litter (84 vs 16%) and litters with resorptions (100 vs 60%). ↑Non-live implants/litter (85 vs 16%). ↓Live litter size (n = 5.6 vs. 11.0). ↓Fetal body weight (16%). ↑Fetuses/litter with malformations (92 vs 2.5%).**

*Number of pregnant dams at sacrifice.
** External, visceral, and skeletal

Web Table 11: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
Fischer-344 Rats	Prenatal developmental toxicity study. DEHP administered in feed on gd 0–20.	24	0		
(Tyl et al., 1988c; Tyl et al. 1984b)	Sacrificed on gd 20. Dams weighed at gd 0, 4, 8, 12, and 20. Maternal liver, and uteri weighed, and corpora lutea counted at sacrifice. Fetuses examined for gross external, visceral and skeletal malformations.	23	**357**[a,b]	NOAEL. ↑ Relative liver weight. ↓ Food consumption. ↑ Water intake.	NOAEL.
		22	666	Piloerection and rough coat. ↑ Relative liver weight. ↓ Gestational weight gain. ↓ Corrected weight gain. ↓ Food consumption. ↑ Water intake.	↓ Fetal weight. (6%)
		24	856	Piloerection and rough coat. ↑ Relative liver weight. ↓ Gestational weight gain. ↓ Corrected weight gain. ↓ Food consumption. ↑ Water intake.	↓ Fetal weight. (15%)
		25	1,055	Piloerection and rough coat. ↑ Relative liver weight. ↓ Gestational weight gain. ↓ Corrected weight gain. ↓ Food consumption.	↑ Resorptions (54 vs 4%) and affected implants (58 vs 5%). ↓ Number of live fetuses per litter (n=8.0 vs 10.5).[@] ↓ Fetal weight (25%). ↑Skeletal variations Trend of fetal malformations (1.27, 0, 1.92, 3.13, and 2.87%)

* Number of pregnant dams at sacrifice.

[@] Not statistically significant.

[a] Numbers presented in **bold** text are the NOAELs.

[b] Doses estimated by author

Web Table 12: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects	
				Maternal	**Fetal**
CD-1 Mice	Prenatal developmental toxicity study.	30	0		
(Huntingdon 1996)	DEHP administered by gavage on gd 6–15.	14	40	No Effect.	Developmental NOAEL.
	Sacrificed on gd 17. Dams weighed on gd 0, 2, 6, 9, 12, 15, and 17.	14	200	Maternal NOAEL.	↑ External and visceral malformations/variations[a].
	Maternal liver and placenta were weighed, corpora lutea were counted and implantation sites examined. All fetuses were weighed and examined for gross external malformations. Visceral and skeletal malformations were examined in half the fetuses.	13	1,000	↓ Weight gain (gd 6–17). ↑ Liver to body weight ratio.	↓ Pup survival. ↑ Resorptions (n=5.6/11 litters vs 0.6/30 litters) and post implantation losses (41 vs 4.4%). ↓ Fetal weight (7%). ↑ Skeletal variations[a]. ↑ Skeletal, external, and visceral malformations[a].

[a] Fetal malformations/variations were not statistically analyzed

Web Table 13: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
F344/CrlBr Rats *(Price et al., 1986)*	Postnatal developmental toxicity study **DEHP** administered in feed on gd 0–20. Dams weighed on gd 0, 4, 8, 12, 16, and 20. Dams allowed to litter. Pups were counted, sexed, and weighed. Pups examined for gross morphological defects. Postnatal growth and development of pups was evaluated	19	0		
		23	**164**	No effect.	NOAEL.
		22	313	↓ Food consumption.	↑ Post implantation mortality– 21 vs 8%. ↓ Pre- and perinatal growth & viability.
		21	573	↓ Gestational weight gain. ↓ Food consumption.	↓ Pup weight (8%; recovery by pnd 4). ↓ Pre- and perinatal growth & viability. ↑Post implantation mortality- 20 vs 8%.[a]
	F_1 pups mated within dose groups. F_2 pups examined on pnd 0 and 4.	59–75			No effect on F_1 reproduction or pups. F_2 growth, viability or development.

*Number of pregnant dams at sacrifice.

[a] Not statistically significant.

Web Table 14: DEHP, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
CD-1 Mice	Pre and postnatal developmental toxicity study.	26	0		
(Price et al. 1988b)	DEHP administered in diet on gd 0–17.	26	19	No effects.	No effects.
	Dams weighed every 4 days and allowed to litter.	26	48	No effects.	NOAEL.
	Pups were weighed and examined at birth and then evaluated for development and sexual maturation. F_1 pups were mated within parental dose groups (F_{2a} litter) and between high dose and control groups (F_{2b} litter). F_2 pups were examined on pd 1 and 4 and then sacrificed. Sex organs of control and high dose F_1 rats were weighed and examined histologically.	25	95	NOAEL.	↑ Prenatal mortality/litter in F_1 pups (26 vs. 9.0%). ↓Live F_1 pups/litter (n=8.5 vs. 10.9). ↓Live F_{2a} pups/litter (n=9 vs 11). ↓F_1 Pup survival on pd 4 (85 vs 96%). No effects on F_1 developmental landmarks, including vaginal opening and testes descent, or sex organ weight and histology at any dose. No effects on growth and viability of F_2 litters at any dose.

Web Table 17: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose[a] (mg/kg bw/day)	Effects	
				Maternal	**Fetal**
Long-Evans Rat *(Arcadi et al. 1998)*	Pre and post natal developmental toxicity.	12	0		
	DEHP administered in drinking water to dams throughout gestation and lactation. Liver, kidney, and testes were weighed and examined histologically in 1 pup/8 litters/group on pnd 21, 28, 35, 42, and 56. Neurobehavioral function was tested by having female pups walk on a beam to avoid negative stimuli on pnd 30.	12	3.0–3.5	No effects on body weight gain or appearance.	↑Liver to body weight ratio. ↓Testes to body weight ratio (12%). ↓Absolute kidney weight (reversible). Reversible histological changes in liver and kidney. Histological changes in testes.
		12	30–35		↑Liver to body weight ratio. ↓Testes to body weight ratio (30%). ↓Kidney to body weight ratio (reversible). ↓Neurobehavioral function. Reversible histological changes in liver and kidney. Histological changes in testes.

[a] Estimated by author

Web Table 18: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects	
				Maternal	**Fetal**
Wistar Rats	Prenatal developmental toxicity study.	10	0		
(Hellwig et al. 1997)	DEHP administered in oil by gavage on gd 6–15.	9	40	No effects.	No effects.
	Dams weighed on gd 0, 6, 10, 15, and 20 and sacrificed on gd 20**.**	10	200	NOAEL.	NOAEL.
	Maternal uteri were weighed, corpora lutea were counted and implantation sites examined. Fetuses were weighed and examined for gross external malformations. Half the fetuses were examined for visceral malformations and the other half for skeletal malformations.	9	1000	↑Liver and kidney to bodyweight ratio. ↓Uterine weight. ↓Body weight gain.	↑Postimplantation loss (40 vs 10%). ↑Resorptions (40 vs 9.8%). ↓Fetal weights (18%). ↑Fetus/litter with malformations (63 vs 2%), variations (80 vs 25%), and retardations (57 vs 39%)[a]. ↑Litters with malformations (100 vs 10%)[a].

[a]External, soft tissue, and skeletal

See DEHP document for reference list.

Web Table 19: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects	
				Maternal	**Fetal**
Fischer-344 Rat *(Narotsky and Kavlock 1995)*	Prenatal developmental toxicity screen. DEHP administered in oil by gavage on gd 6–19. Dams were weighed on gd 6, 8, 10, 13, 16, and 20. Dams were allowed to litter. Pups were counted, weighed and examined on postnatal (pnd) day 1 and 6. Implantation sites and resorptions were examined in dams.	13	0		
		10	1,125	Delayed parturition. Vaginal bleeding. Weight loss (<10%). Piloerection.	100% prenatal pup loss. Eye and vascular defects.*
		9	1,500	Delayed parturition. Vaginal bleeding. Weight loss (<10%). Piloerection.	~98% prenatal pup loss. 1 live born pup dead by pnd 6. Cleft palate and renal agenesis (1 pup).*
Fischer-344 Rat *(Narotsky et al. 1995)*	The developmental toxicity screen was repeated with lower doses with administration of DEHP on gd 6–15.	12	0		
		11	333	No effects.	No effects.
		10	500	NOAEL.	NOAEL.
		11	750	Delayed parturition.	Eye defects (in 2.8% pups).
		12	1,125	Delayed parturition.	Eye defects (in 4.3% pups).

* A few dead pups were available for examination but the number available was not stated.

Web Table 20: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose	Number*	(mg/kg bw/day)	Effects: Maternal	Effects: Fetal
ddY-Slc Mice *(Yagi et al., 1980; Nakamura et al. 1979*; *Tomita et al., 1982)*	Prenatal developmental toxicity study. DEHP administered by gavage. Not a full factorial dose experiment. Sacrificed on gd 18. Maternal corpora lutea counted. Fetuses examined for gross external, and skeletal malformations.		4–31	0		[a]
		gd 6	6	2,465		↓ Fetal weight.
		gd 7	22	49.3	No effects at 4 lowest doses.	No effects at two lowest doses.
			11	98.6		
			6–10	986		High incidence of death and abnormalities at this dose group.
			5	2,465		
			4	4,930	↓Weight gain	
			5	9,860		
		gd 8	6	7,395	↓Weight gain	High incidence of death and abnormalities in this dose group. ↓ Fetal weight.
			8	9,860		
		gd 9	3	7,395	↓Weight gain	Lower incidence of death & abnormalities ↓ Fetal weight.
			5	9,860		
			5	29,580		
		gd 10	7	9,860	↓Weight gain	Lower incidence of death & abnormalities
			7	29,580		

* Number of pregnant females at sacrifice. [a] Effects described apply to all doses given on the specified gestational day, unless otherwise indicated.

Web Table 21: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
ICR-JCL Mice *(Shiota et al., 1980; 1982)*	Prenatal developmental toxicity study. **DEHP** administered in feed on gd 0–18. Dams weighed on gd 0–18. Sacrificed on gd 18. Maternal corpora lutea counted. Fetuses examined for skeletal malformations or soft tissue morphology.	8	0		
		8	**70**	No effect.	LOAEL. Delayed ossification.
		9	**190**	NOAEL.	↑ Prenatal mortality (31 vs 5%).
		7	400	↓ Bodyweight on gd 18.	↑ Prenatal mortality (68–83 vs 5%). ↑ Fetuses with malformations. (26–41 vs 0%) ↓ Fetal weight (14–38%). Delayed ossification
		7	830	↓ Bodyweight on gd 18.	Complete prenatal mortality.
		12	2,200	↓ Bodyweight on gd 18.	Complete prenatal mortality.

* Number of pregnant females at sacrifice.

Web Table 22: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
ICR-JCL Mice *(Shiota & Mima, 1985)*	Four prenatal developmental toxicity studies. **DEHP** administered by gavage on gd 7–9. Sacrificed on gd 18. Fetuses examined for gross external, visceral, and skeletal malformations. Lethality and abortion were the only maternal effects reported.	11	0		
		9	**250**	No effect.	NOAEL ↑ Fetuses with malformations.[a] (4.3 vs 0.3%)
		10	500	No effect.	↑ Fetuses with malformations. (26 vs 0.3%)
		10	**1,000**	NOAEL	↑ Fetuses with malformations. (37 vs 0.3%) ↑ Number of resorptions (59 vs 9%). ↓ Fetal weight (F: 9%; M:20%).
		11	2,000	Low incidence of lethality	↑ Fetuses with malformations. (83 vs 0.3%) ↑ Number of resorptions (93 vs 9%). ↓ Fetal weight (F: 17%; M: 28%).
	DEHP administered intraperitoneally on gd 7–9. Sacrificed on gd 18. Fetuses examined for gross external, visceral, and skeletal malformations.	9	0		
		3	500	No effect.	No effect.
		4	1,000	No effect.	No effect.
		9	2,000	No effect.	No effect.
		8	**4,,000**	NOAEL.	NOAEL.
		3	8,000	↑ Number of abortions.	↑ Prenatal mortality (80 vs 7%). ↑ Number of resorptions.

* Number of pregnant females at sacrifice.

[a] Not dose dependent.

Web Table 23: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Wistar Rats *(Ritter et al., 1987)*	Prenatal developmental toxicity study. **DEHP** administered by gavage on gd 12. Sacrificed on gd 20. Fetuses were weighed and examined for viability, gross external, visceral, and skeletal malformations.	7*	0		
		7	4,882		↑ Fetuses with malformations (4.5 vs 0%).[a] ↑ Prenatal mortality and fetal resorptions (10.9 vs 9.6%).[a]
		7	9,764		↑ Fetuses with malformations (21 vs 0%).[a] ↑ Prenatal mortality and fetal resorptions (15.5 vs 9.6%).[a]

* Number of pregnant dams at sacrifice.
[a] Statistical significance unkown.

Web Table 24: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
Rattus norvegius (Albino) Rats *(Srivastava et al., 1989)*	Prenatal developmental toxicity study. **DEHP** administered by gavage on gd 6–15. Sacrificed on gd 20. Fetal livers examined for enzyme levels. Fetuses were counted and weighed. Fetuses were examined for viability, gross external, visceral, and skeletal malformations.	21	0		
		21	1,000	↓ Gestational weight gain.	↑ Relative liver weight (23%). ↓ Activity of mitochondrial liver enzymes (22–44%) ↓ Fetal weight (24%).

*Number of pregnant dams at sacrifice.

Web Table 25: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Sprague-Dawley Rats *(Lewandowski et al., 1980)*	Prenatal developmental toxicity study.	25	0.0		
	DEHP plasma extracts administered intravenously on gd 6–15.	25	1.3[a]	No effect.	No effect.
	Dam weights and gross physical changes recorded daily. Sacrificed on gd 20.	25	4.7[a]	No effect.	No effect.
	Fetuses were weighed counted, and examined for gross external, visceral, and skeletal malformations.	25	1.4[b]	No effect.	No effect.
		25	**5.3**[b]	No effect.	No effect.
Sprague-Dawley Rats *(Singh et al., 1972)*	Prenatal developmental toxicity study.	5	0		
	DEHP administered by intraperitoneal injection on gd 5, 10, and 15. Sacrificed on gd 20. Maternal corpora lutea were counted.	5	4,930	No maternal toxicity data reported.	↑ Fetal resorptions (8.2 vs 0%). ↓ Fetal weight (27%).
	Fetuses weighed and examined for viability, gross external and skeletal malformations.	5	9,860		↑ Fetal resorptions (27 vs 0%). ↑ Fetuses with malformations (22 vs 0%). ↓ Fetal weight (28%).

* Number of pregnant dams at sacrifice.

[a] DEHP extracted from strips of PL-130 plastic.

[b] DEHP extracted from strips of PL-146 plastic.

Web Table 26: DEHP, Developmental Toxicity

					Effects	
Strain	**Experimental Regimen**	**Number**		**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
Sprague-Dawley Rats *(Peters and Cook 1973)*	Prenatal developmental toxicity study. Rats were injected intraperitoneally with saline or DEHP on specified gestation days. Dams were allowed to litter. Implantation sites were examined in dams that died or delivered dead pups.	10		0		
		5	gd 1	1,972	**	↓Live pups (9.4 vs 10–11.2). ↓Pups weaned (7.2 vs 10).
		5	gd 3	1,972	**	Implantations in 4/5dams. ↓Live pups (8.3 vs 10–11.2). ↓Pups weaned (6.7 vs 10).
		5	gd 6	1,972	2 dams killed.	Implantations in 4/5dams. ↓Live pups (8.5 vs 10–11.2). ↓Pups weaned (8.5 vs 10).
		5	gd 9	1,972	5 dams killed.	
		5	gd 3, 6	1,972	**	Implantations in 3/5dams. ↓Live pups (9.0 vs 10–11.2). ↓Pups weaned (9.0 vs 10).
		5	gd 6,9	1,972	1 dam died. Bleeding during delivery.	No effects.
		5	gd 3,6,9	1,972*	1–3 dams died. Bleeding during delivery.	Implantations in 2-4/5dams. ↓Live pups (4.0–5.0 vs 10–11.2). ↓Pups weaned (4.0–5.0 vs 10).
		5		3,944	1 dam died. Bleeding during delivery.	Implantations in 1/5 dams.
	Surviving female offspring were mated and allowed to litter	***		All dose groups	Not reported.	No effects on litter size.

*Includes data from 2 experiments ** No maternal toxicity reported for these dose groups *** Numbers mated not indicated

See DEHP document for reference list.

Web Table 27: DEHP, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Wistar Rats *(Merkle et al., 1988)*	Pre- and postnatal developmental toxicity study. **DEHP** administerd by inhalation for 6 hours/day on gd 6–15. Dams weighed at gd 3, 6, 9, 12, 15, &20. 20 females/group were killed on gd 20 and examined for resorption sites. Fetuses were examined for external, skeletal and visceral malformations. 5 Females/group allowed to litter. Dams weighed on postnatal days (pnd) 7 and 21. Physical development (non-sexual) of pups assessed. Pups sacrificed and examined on pnd 21.	18 (5)[a] 19 (5) 17 (5) 16 (5)	0 2.8[c] **14** 84	 No effect. No effect. ↓ Body weight (pd 21)	 No effect. NOAEL. ↓ Live fetuses/dam (n=10.6 vs 12).[d] ↑ % Litters with skeletal retardations.[b] (56 vs 17%) No differences were observed for postnatal survival or non-sexual development at any dose level.

[a] Number of litters evaluated on gestation day 20 (number of litters delivered)
[b] May not be treatment related due to high incidence of this type of malformation in wistar rats and as well as the control groups.
[c] Doses calculated by IEHR?
[d] Since not dose-dependent, not considered treatment related.

Web Table 28: DEHP, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number[a]**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
F_4 C57BL/6N X Sv/129, wild type Mice *(Peters et al. 1997)*	Prenatal developmental toxicity. DEHP administered by gavage on gd 8–9. Dams weighed on gd 0, 8, 9,10 and 18. Sacrificed on gd 10 or 18. Maternal liver was weighed, and liver mRNA and zinc analysis conducted on gd 10. Implantation sites examined on gd 10 and 18. Fetuses were examined for neural tube defects and zinc levels on gd 10 and weighed and observed for gross external malformations on gd 18.	10–12	0		
		10	1,000	↓Body weight gain (gd 18). ↑Liver/body weight ratio (gd 10). ↑Liver metallothionein and zinc level (gd 10). ↑CYP4A1 mRNA transcription (gd 10).	↑Resorptions (72 vs 15%; gd 18). ↓Live fetuses (34 vs 88% on gd 10; 28 vs 84% on gd 18). ↓Fetal weight (9%). ↓Crown-rump length (26%; gd 10). ↑Neural tube defects (78 vs 8% on gd 10). ↑Fetuses with external abnormalities (40 vs 3% on gd 18). ↓Fetal zinc level (gd 10).

[a]Number of litters examined on gd 10 and 18

Web Table 29: MEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
CD-1 Swiss Mice *(Price et al., 1991)*	Prenatal developmental toxicity study. **MEHP** administered in feed gd 0–17. Dams weighed gd 0–17. Sacrificed on gd 17. Fetuses counted, weighed, and sexed. Fetuses examined for gross external, visceral, and skeletal malformations.	26	0		
		28	35	No effect.	↑ Litters with resorptions (63 vs 28%).
		27	73	No effect.	↑ Litters with resorptions (74 vs 28%).
		27	**134**	NOAEL. ↑ Relative liver weight.	↑ Litters with resorptions (76 vs 28%). ↑ Fetuses with malformations. (25 vs 3%) ↓ Fetal weight (7%).
		27	269	↓ Corrected weight gain. ↑ Relative liver weight.	↑ Litters with resorptions. (93 vs 28%) ↑ Fetuses with malformations. (42 vs 3%) ↓ Fetal weight (6%).

* Number of pregnant females at sacrifice.

[a] numbers presented in **Bold** text are the NOAEL

Web Table 30: MEHP, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose[a] (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Wistar Rats	Prenatal developmental study.	13	0		
	MEHP administered by gavage on gd 6–15.				
(Ruddick et al., 1981)	Dams weighed on gd 0 and 18.	15	**50**	NOAEL.	No effect.
	Dams sacrificed on gd 22.				
	Maternal deciduomas counted.	10	100	↓ Gestational weight gain.	No effect.
	Pups counted and litters weighed.				
	Pups examined for vicseral and skeletal malformations.	13	200	↓ Gestational weight gain.	No effect.
		9	**225**	↑ Maternal lethality.	NOAEL.
		8	450	↑ Maternal lethality.	↓ Number of dams with live litters (n = 6/11 vs 13/15). ↓ Litter weight (8%).
		0	900	Complete maternal lethality.	

* Number of pregnant females at sacrifice.

[a] numbers presented in **Bold** text are the NOAEL

Web Table 31: MEHP, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
ICR-JCL Mice *(Shiota & Mima, 1985)*	Prenatal developmental toxicity study. **MEHP** administered gy gavage on gd 7–9. Sacrificed on gd 18. Fetuses examined for gross external, vicseral, and skeletal malformations.	11	0		
		13	**50**	NOAEL.	No effect.
		12	100	↑ Number of abortions.	No effect.
		9	200	↑ Maternal lethality. ↑ Number of abortions.	No effect.
		0	400	Complete maternal lethality.	
	MEHP administered intraperitoneally on gd 7–9. Sacrificed on gd 18. Fetuses examined for gross external, vicseral, and skeletal malformations.	9	0		
		14	**50**	Maternal NOAEL	No effect.
	Dams and fetuses killed on gd 18	12	100	↑ Maternal lethality.	↓ Fetal weight (7–9%).
		0	200	Complete maternal lethality.	

* Number of pregnant females at sacrifice.

Web Table 32: MEHP, Developmental Toxicity

Strain	Experimental Regimen	Number		Dose (mg/kg bw/day)	Effects	
					Maternal	**Fetal**
ddY-Slc Mice	Prenatal developmental toxicity study.	9		0		
			gd 7			
Yagi et al. 1980	MEHP administered by gavage on gestation 7, 8, or 9. Not a full factorial dose experiment.	6		104	**	↓Fetal weight. ↑Fetal death.* ↑Abnormalities.*
	Sacrificed on gd 18. Maternal corpora lutea counted. Fetuses examined for gross external and skeletal malformations.	4		1,040		↓Fetal weight. ↑Fetal death.*
			gd 8			
		8		104	**	↑Fetal death.* ↑Abnormalities.*
		5		520		↓Fetal weight. ↑Fetal death.* ↑Abnormalities.*
		2		1,040		↓Fetal weight. ↑Fetal death.* ↑Abnormalities.*
			gd 9			
		3		1,040	**	↓Fetal weight. ↑Fetal death.* ↑Abnormalities.*

* Statistical significance not indicated.
** Decreases in maternal weight gain were observed, but it is not clear at which doses and exposure days.

Web Table 33: MEHP, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
New Zealand White Rabbits	Prenatal developmental toxicity study.	15	0	1/11 Died.	
(Thomas et al. 1979)	MEHP administered intravenously on gd 6–18.	5	1.1	No effects.	No effects.
	Dams weighed daily and sacrificed on gd 30.	8	5.7	2/11 Died.* Convulsions prior to death.	No effects.
	Maternal corpora lutea and implantation sites examined and organs were weighed and examined histologically. Fetuses were weighed and examined for gross external malformations. Half the fetuses were examined for visceral malformations and the other half for skeletal malformations.	7	11.4	4/11 Died.* Convulsions prior to death. Paralysis in 2/11 does. Abortion in 1 doe.	10 Resorptions in 1litter.
				No changes in organ weights at any dose .	No increases in fetal malformations at any dose.

* Authors stated that deaths appeared to be unrelated to treatment.

Web Table 34: 2-EH, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
CCD-1 Mice *(Tyl et al., 1991)*	Prenatal developmental toxicity study. **2-EH** administered by microcapsule in feed on gd 0–17. Dams weighed on gd 0, 3, 6, 9, 12, 15, and 17. Sacrificed on gd 17. Maternal liver, and uterus weighed, and corpora lutea counted. Fetuses counted, weighed, and sexed. Fetuses examined for gross external, visceral, and skeletal malformations.	27	0		
		27	17	No effect.	No effect.
		27	59	No effect.	No effect.
		26	191	↑Food consumption (gd 0–3)	No effect.

* Number of dams pregnant at sacrifice

Web Table 35: 2-EH, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal***
Wistar Rats	Prenatal developmental toxicity study.	≥7	0		
(Ritter et al. 1987)	2-EH administered by gavage on gd 12. Sacrificed on gd 20. Implantation sites examined. Fetuses weighed and observed for viability and external, visceral, and skeletal malformations.	≥7	814	Maternal toxicity not reported.	↓Fetal weight (5%). ↑Malformations (2 vs 0%). ↑Resorptions (10.1 vs 9.6%).
		≥7	1,629		↓Fetal weight (15%). ↑Malformations (22 vs 0%).

* Statistical significance of effects is not clear.

Web Table 36: 2-EH, Developmental Toxicity

Strain	Experimental Regimen	Number[a]	Dose (mg/kg bw/day)	Effects	
				Maternal	Fetal
Wistar Rat	Prenatal developmental toxicity study.	19 (270)	0		
(Hellwig et al. 1997)	2-EH administered in water with 0.005% Cremophor EL by gavage on gd 6–15. Dams were weighed daily and sacrificed on gd 20**.** Maternal uteri were weighed, corpora lutea were counted and implantation sites examined. Fetuses were weighed and examined for gross external malformations. Half the fetuses were examined for visceral malformations and the other half for skeletal malformations.	10 (130)	130	No effects.	No effects.
		9 (127)	650	"Slight maternal toxicity visible".	↓Fetal weight (9.5%). ↑(Nonsignificant) in fetuses with malformations (5.5 vs 0.8–1.4%) variations (39 vs 32–37%), and retardations (40 vs 23–26%).[b] ↑(Nonsignificant) in litters with malformations (44 vs 11–20%).
		2 (28)	1,300	Death in 6/10 dams. Decreased body weight gain and food intake. Discolored liver, pulmonary edema, and clinical signs of toxicity.	↑Resorptions / dam (n=7.8 vs 1.1–1.2) and postimplantation loss (54.7 vs 7–8.2%). ↓Fetal weight (25%). ↑Fetuses with malformations (18 vs 0.8–1.4%),variations (71 vs 32–37%), and retardations (54 vs 23–26%).[c] ↑(Nonsignificant) in litters with malformations (100 vs 11–20%).

[a]Total number of litters (fetuses) evaluated [b]Skeletal effects [c]Dilated renal pelvis, anal defect, and skeletal effects

Web Table 37: 2-EH, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
Sprague-Dawley Rat *(Nelson et al. 1989)*	Prenatal developmental toxicity study. Dams breathed 2-EH vapors for 7 hours/day on gd 1–19. Dams were weighed weekly and sacrificed on gd 20. Corpora lutea were counted and implantation sites examined. Fetuses were weighed, sexed and examined for gross external malformations. Half the fetuses were examined for visceral malformations and the other half for skeletal malformations.	15 15	0 262*	 ↓Food Intake (~10–15%).	 ↑Delayed ossification.

*Calculated with average dam body weight (312.5 g) and EPA (1988) assumptions for daily inhalation rate (0.330 m^3/day)

Web Table 38: 2-EH, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Fischer 344 Rats *(Tyl, 1989)*	Prenatal developmental toxicity study. 2-EH administered by occluded cutaneous application for 6 hours/day on gd 6–15. Dams weighed on gd 0, 6, 12, 15, 18, and 21. Sacrificed on gd 21. Maternal liver, and intact uterus weighed, and corpora lutea counted. Fetuses counted, weighed, and sexed. Fetuses examined for gross external, vicseral, and skeletal malformations.	18	0		
		19	252	No effect.	No effect.
		23	840	Cellular exfoliation and erethema.	No effect.
		20	2,,520	Cellular exfoliation and erethema. ↓ Gestational weight gain.	No effect.

* Number of dams pregnant at sacrifice

Web Table 39: 2-EHA, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Fischer 344 Rats *(Tyl, 1988)*	Prenatal developmental toxicity study.	25[a]	0		
	2-EHA administered by gavage on gd 6–15. Dams weighed on gd 0, 6, 12, 15, 18, and 21. Sacrificed on gd 21.	25	**100**	No effect.	NOAEL.
	Maternal liver and intact uterus weighed, and corpora lutea counted.	25	**250**	NOAEL.	↑ Skeletal variations.[a]
	Fetuses examined for gross external, visceral, and skeletal malformations.	25	500	↑ Clinical signs of toxicity.[b] ↑ Relative liver weight.	↑ Skeletal variations. ↓ Fetal weight (8%).

* Number of pregnant females at sacrifice.
a Not statistically significant.

[b] Clinical signs included hypoactivity, ataxia, audible respiration, ocular discharge, and periocular encrustation.

Web Table 40: 2-EHA, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
New Zealand White Rabbits *(Tyl et al. 1988b)*	Prenatal developmental toxicity study. **2-EHA** administerd by gavage on gd 6–18. Dams weight measured on gd 0, 6, 9, 12, 15, 18, & 21. Sacrificed on gd 21. Maternal liver and uterus weighed, and corpora lutea counted. Fetuses were counted, weighed, and sexed. Fetuses were examined for gross external, visceral, and skeletal malformations.	15	0		
		15	**25**	NOAEL.	No effect.
		11	125	1 Maternal fatality.[a] 1 Aborted litter.[a]	No effect.
		13	250	1 Maternal fatality.[a] ↓ Weight gain (gd 18–29). ↓ Food consumption (gd18–29).	No effect.

* Number of pregnant females at sacrifice.

[a] Although not statistically significant, the authors believe these effects to be treatment related.

Web Table 41: 2-EHA, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal***
Wistar Rats	Prenatal developmental toxicity study.	≥7	0		
(Ritter et al. 1987)	2-EHA administered by gavage on gd 12. Sacrificed on gd 20. Implantation sites examined. Fetuses weighed and observed for viability and external, visceral, and skeletal malformations.	≥7	902	Maternal toxicity not reported.	↓Fetal weight (2.4%). ↑Malformations (0.8 vs 0%).
		≥7	1,803		↑Resorptions (12.9 vs 9.6%). ↓Fetal weight (29%). ↑Malformations (68 vs 0%).

* Statistical significance of effects is not clear.

Web Table 42: 2-EHA, Developmental Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects	
				Maternal	**Fetal***
Sprague-Dawley Rats *(Scott et al. 1998)*	Prenatal developmental toxicity study. 2-EHA administered by gavage on gd 12. Sacrificed on gd 20. Implantation sites examined. Fetuses were observed, sexed, and weighed. Two-thirds were examined for visceral malformations and 1/3 for skeletal malformations.	10	0		
		9	1,803	Maternal toxicity not reported.	↑Resorptions (14 vs 6%). ↓Fetal weight (28%). ↑Malformations (37 vs 1%).
		7	2,253		↑Resorptions (60 vs 6%). ↓Fetal weight (47%). ↑Malformations (100 vs 1%).

*Statistical significance not reported.

Web Table 43: 2-EHA, Developmental Toxicity

Strain	Experimental Regimen	Dose Number*	Dose (mg/kg bw/day)	Effects Maternal	Effects Fetal
Han:Wistar Rats	Prenatal developmental toxicity study.	21	0		
	2-EHA administered in drinking water on gd 6–19.	21	100	No effect.	↑ Fetuses with variations.
	Dams sacrificed on gd 20.				
(Pennanen et al., 1992)	Maternal liver and uterus weighed, and corpora lutea counted.	20	**300**	NOAEL.	↑ Fetuses with malformations. ↓ Mean fetal/litter weight (6%;females). ↓ Placental weight. ↑ Fetuses with variations.
	Fetuses examined for gross external, visceral, and skeletal malformations.	20	600	↓ Corrected weight gain. ↑ Water consumption.	↑ Fetuses with malformations. ↓ Mean fetal/litter weight (8%;females). ↓ Placental weight. ↑ Fetuses with variations.

* Number of pregnant females at sacrifice.

Web Table 44: 2-EHA, Developmental Toxicity

Strain	Experimental Regimen	Number*	Dose (mg/kg bw/day)	Effects: Maternal	Effects: Fetal
Han:Wistar Rats *(Pennanen et al., 1993)*	Postnatal developmental toxicity study.	5	0		
	2-EHA administered in drinking water prior to mating (males 10 weeks; females 2 weeks) and females on gd 0–20.	5	**100**	No effect.	NOAEL.
	Maternal liver and uterus were weighed, and corpora lutea counted.	5	**300**	NOAEL.	↑ Incidence of kinky tail (24 vs 5%). Delay in developmental parameters.
	Pups were counted and examined for gross external malformations. Pups were weighed on pnd 0, 4, 7, 14, and 21. Pups were evaluated daily for developmental parameters. Sacrificed on pnd 21.	10	600	↓ Water consumption.	↓ Litter size (n= 9.2 vs 10.9). ↑ Incidence of kinky tail (26 vs 5%). Delay in developmental parameters.

*Number of pregnant females at sacrifice.

Web Table 45: 2-EHA, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number***	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
Sprague-Dawley Rats *(Bui et al. 1998)*	Prenatal developmental toxicity study. 2-EHA administered by gavage on gd 8–15 to dams fed adequate zinc diets. Sacrificed on gd 16 or 19. Resorptions, fetal weight, and external and skeletal malformations evaluated on both sacrifice days.	7–10	0		
		7–10	483	↓ Corrected body weight (Gd 16 and 19).	↑Resorptions (23 vs 5%) in gd 19 group only. ↓Fetal weight (9%) and crown-rump length (9%) in gd 19 group only. ↑Brain/skull (14 vs 0%) and tail (26 vs 2%) malformations/litter in gd 16 group. ↑Tail malformations/litter (7.9 vs 0%) in gd 19 group.**

*Number of litters evaluated on sacrifice day 19 and 16 respectively.
** Not statistically significant

Web Table 46: 2-EHA, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg /kg bw/day)**	**Maternal**	**Fetal**
Wistar Rat	Prenatal developmental toxicity study.	11	0		
(Ema et al. 1997)	Phthalic acid administered in diet on gd 7–16.	11	10,21	NOAEL.	No effects.
	Dams were weighed daily and sacrificed on gd 20**.**	11	1,763	↓ Weight gain and food intake.	NOAEL.
	Corpora lutea and implantation sites were examined and fetal survival was evaluated.	11	2,981	↓ Weight gain and food intake.	↓Male fetus weight. ↓Ossification.
	Fetuses were weighed and examined for gross external malformations. One third of the fetuses were examined for visceral malformations and 2/3 for skeletal malformations.				No effects on fetal survival or malformations.

Web Table 15: DEHP, Reproductive Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects
CD-1 Swiss Mice	Fertility assessment through continuous breeding study.	~~20~~AI **40**[a]	0	
	DEHP administered to breeding pairs in feed for 98 days.	20	**14**	NOAEL.
(Reel et al., 1984; Lamb et al., 1987)	Body weight, clinical observations and food intake recorded.	19	141	↓ Fertility in treated pairs (4/19 fertile).
	Number of conceptions, number and size of litters, deaths, counted and pup weight measured.			↓ Number of litters (34%). ↓ Live pups/ litter (51%).
	Crossover mating conducted on the 0 and 425mg/kg bw dose group.	18	425	Complete infertility was observed in F_0 pairs.
	After mating period breeding pairs sacrificed and necropsied.			↓ Male (4/20) and female (0/16) fertility in crossover study.
	Specific organs weighed and histologically examined for the 0 and 425 mg/kg bw dose groups.			↓ Testicular (60%), epididymal (20%), and prostate (12%) weight. ↓ Motile sperm (60%) and sperm concentration (79%). ↑ Abnormal sperm (665%). ↓ Testosterone (52%); ↑ FSH (42%) and LH (28%). ↓ Female reproductive tract weight (16%). ↑ Relative liver weight.

[a] Number of breeding pairs.

See DEHP document for reference list.

Web Table 47: DEHP, Reproductive Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects
Fischer-344 Rats *(Agarwal et al., 1986)*	Male reproductive toxicity study.	24	0	
	DEHP administered to males in feed for 60 days prior to mating.	24	18	No effect.
	Body weight and food intake recorded weekly. Housed with 2 virgin females for 5 days.	24	69	
	Number of conceptions, number and size of litter, deaths and pup weight measured. After mating, selected males sacrificed and necropsied	24	284	↑ Relative liver weight. ↓ Body weight gain.
	Selected organs weighed and histologically examined in 8 males/group Other males allowed to recover for up to 65 days.		1156	Testicular atrophy observed histologically[a]. ↓ Epididymal sperm motility (48%) and density (37%). ↑ Abnormal sperm observed (550%). ↓ Mean litter size (15%). ↓ Relative testis, and epididmal weights and absolute prostate weight[a]. ↑ Relative liver weight. ↓ Body weight gain. ↓Testicular zinc ↑Serum FSH. [a]

[a]% Changes could not be calculated for Agarwal study

See DEHP document for reference list.

Web Table 16: DEHP, Reproductive Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects
Wistar Rats	Fertility assessment through a 2-generation reproductive toxicity study.	10	0	
		10	110	↓ F_1 pup survival on pnd 1–4.
(Schilling et al. 1999)	DEHP administered in feed for 70 days prior to mating until the end of the lactation period.	10	339	↑Liver to body weight ratio in F_0 (15–23%). ↓ F_1 pup survival to pnd 21. Loss of spermatocytes in 2/10 F_1 pups.
	Rats were mated for ≤ 2 weeks. Food intake and body weights were measured weekly. Reproductive data evaluated included mating, fertility, gestation, and live birth index. Pups were sexed, weighed, and evaluated for anogenital distance, survival, and sexual development. At the end of lactation, F_0 rats were sacrificed and necropsied and liver, and sex organs were weighed. Testes were examined histologically in F_0 males and 1 F_1 rat/litter. All but one male and female F_1 rat/litter were examined and sacrificed.	9	1,060	↓Gestational weight gain in F_0 dams. ↑Weight loss during lactation in F_0 dams. ↓Food intake during gestation and lactation in F_0 dams. ↑Liver to body weight ratio in F_0 (38–39%). ↓Absolute ovary weight in F_0 (25%). No effects on F_0 testicular histology. ↑Post implantation loss in F_0 dams. ↓ F_1 litter size and liveborn pups (34%). ↓ F_1 pup survival on pnd 1–4. ↓ F_1 pup weight gain. ↑Aereolas/nipples in male F_1 pups (84 vs 0%, transient). ↑Time for vaginal opening (by 3 days) and preputial separation in F_1 pups (by 4 days). Lose of spermatocytes in 7/9 F_1 pups. Testicular lesions in F_1.
	Selected F_1 rats continued to receive the same DEHP concentrations as parents and at sexual maturity were mated within dose groups for ≤ 2 weeks. The parameters evaluated were the same as those in F_0 rats. F_1 rats and their litters were sacrificed on postnatal day 2. Sex organs of F_1 males were weighed and examined histologically.	10	0	
		10	110	No effect
		8	339	No effect
		7	1,060	Death in 3/9 F_1 males and 2/9 F_1 females. ↓Gestational weight gain in F_1 dams. ↑Liver to body weight ratio in F_1 males (33%). ↓Testes to body weight ratio in F_1 males (22%). ↓Absolute epididymis weight in F_1 males (20%). ↓F_2 litter size liveborn pups and liveborn pups (34%). ↓Anogenital distance in male F_2 pups (13%).

See DEHP document for reference list.

Web Table 48: DEHP, Developmental Toxicity

				Effects	
Strain	**Experimental Regimen**	**Number**	**Dose (mg/kg bw/day)**	**Maternal**	**Fetal**
Sprague Dawley Rat *(Gray et al. 1999)*	Pre and postnatal developmental toxicity study. DEHP administered in oil by gavage from gd 14 to lactation day 3. Male pups were examined for sexual maturation. At 5 months of age, male offspring were killed and necropsied. Organ weights were measured and a histological examination was conducted on reproductive organs.	9 8	0 750	Not Reported	↓Anogenital distance (2.45 vs 3.70mm). ↓Pup weight on gd 2 (17%). ↑Percentage of areolas (88 vs 0%) and numbers of areolas/nipples (n=8 vs 0). ↑% Hypospadias (67 vs 0%), vaginal pouches (45 vs 0%), prostate agenesis (14%), and testicular and epididymal atrophy or agensis (90 vs 0%). ↓Seminal vesicle, prostate, epididymis, testes, and penis weight.

Web Table 49: 2-EHA, Reproductive Toxicity

Strain	Experimental Regimen	Number	Dose (mg/kg bw/day)	Effects
Wistar Rats (Pennanen *et al., 1993)*	Reproductive toxicity study. **2-EHA** administered in drinking water to males for 10 weeks prior to breeding, to females 2 weeks prior to breeding, to both sexes during breeding, and to females during gestation and lactation. Food and water intake recorded. Males and nonpregnant females were sacrificed and necropsied following breeding. Specific male organs weighed and histologically examined. Pregnant females allowed to litter. Number of conceptions, number and size of litters, number of deaths, counted. Pups weighed on pnd 0, 4, 7, 14, and 21. Physical development of pups evaluated. Pups examined for gross malformations.	23[a]	0	
		23	100	↓ Motile sperm (37%).
		24	300	↑ Incidence of kinky tail (24.5 vs. 4.9%) and lethargy (26.7 vs 0%). Delayed physical development of pups.
		24	600	↑ Incidence of kinky tail (25.6 vs. 4.9%). ↑ Epididymal weight (17%). ↓ Motile sperm (23%). ↓ Gestational weight gain (21%). ↓ Female water consumption. ↓ Litter size (15%). Delayed physical development of pups. Delayed fetilization. No effects on testicular histology.

[a] Number of breeding pairs.

References
See the Main Document for the Reference List

See DEHP document for reference list.